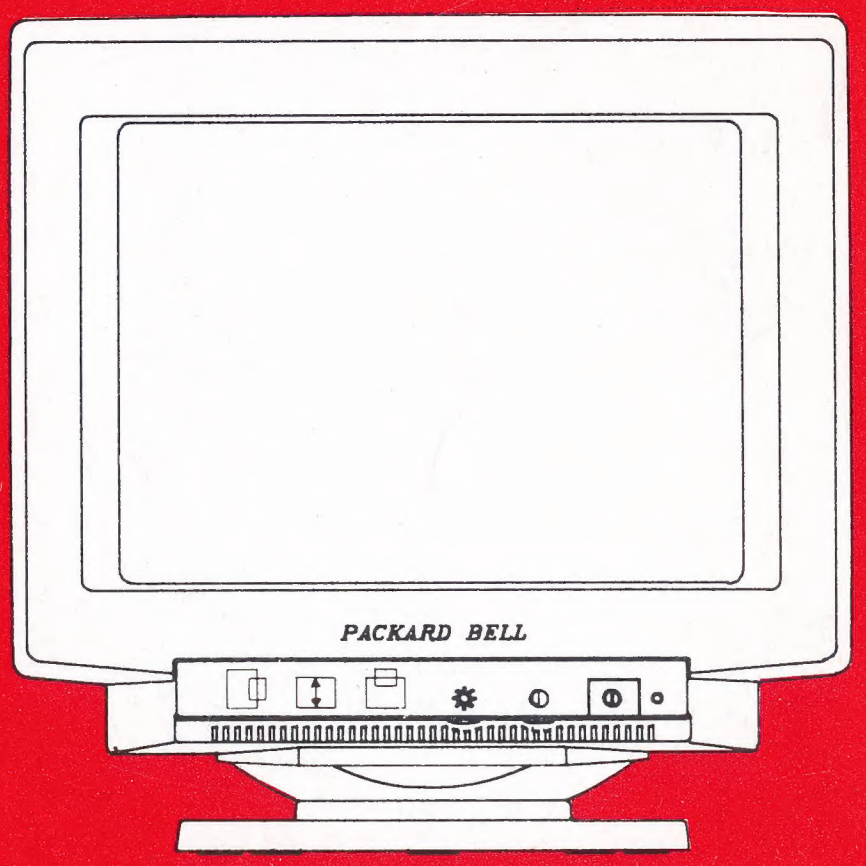
# PACKARD BELL

*America grew up listening to us. It still does.*

# PB8528SVGL

# User's Manual



## Customer's Record

The serial number of this product appears on the back of the unit.

You should note this serial number in the space provided below and retain this manual as a permanent record of your purchase to aid in identification in the event of theft or loss.

Model number: PB8528SVGL

Serial number:

**WARNING:** To reduce the risk of fire or electric shock, do not expose this Computer Display to rain or moisture.

## Caution

For 120V operation, use only with power cord plug having a parallel blade, grounding type plug, rated 125V 10A.
For 240V operation, use only with power cord having a tandem blade, grounding type plug, rated 250V 5A.

## Federal Communications Commission Requirements

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

..... Reorient or relocate the receiving antenna.

..... Increase the separation between the equipment and the receiver.

..... Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

..... Consult the dealer or an experienced radio/TV technician for help.

If necessary, consult your dealer's service representative for additional suggestions. The user may find the booklet, "Something About Interference", prepared by the Federal Communications Commission, helpful. This booklet is available from the U.S. Government Printing Office, Washington DC 20402.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

FCC Warning: To assure continued FCC emissions limit compliance, the user must use only the provided shielded power supply cord and interfacing cable when connecting to a host computer. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this monitor.

## Canadian Department of Communications Requirements

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le Règlement sur le brouillage radioélectrique édicte par le Ministère des Communications du Canada.

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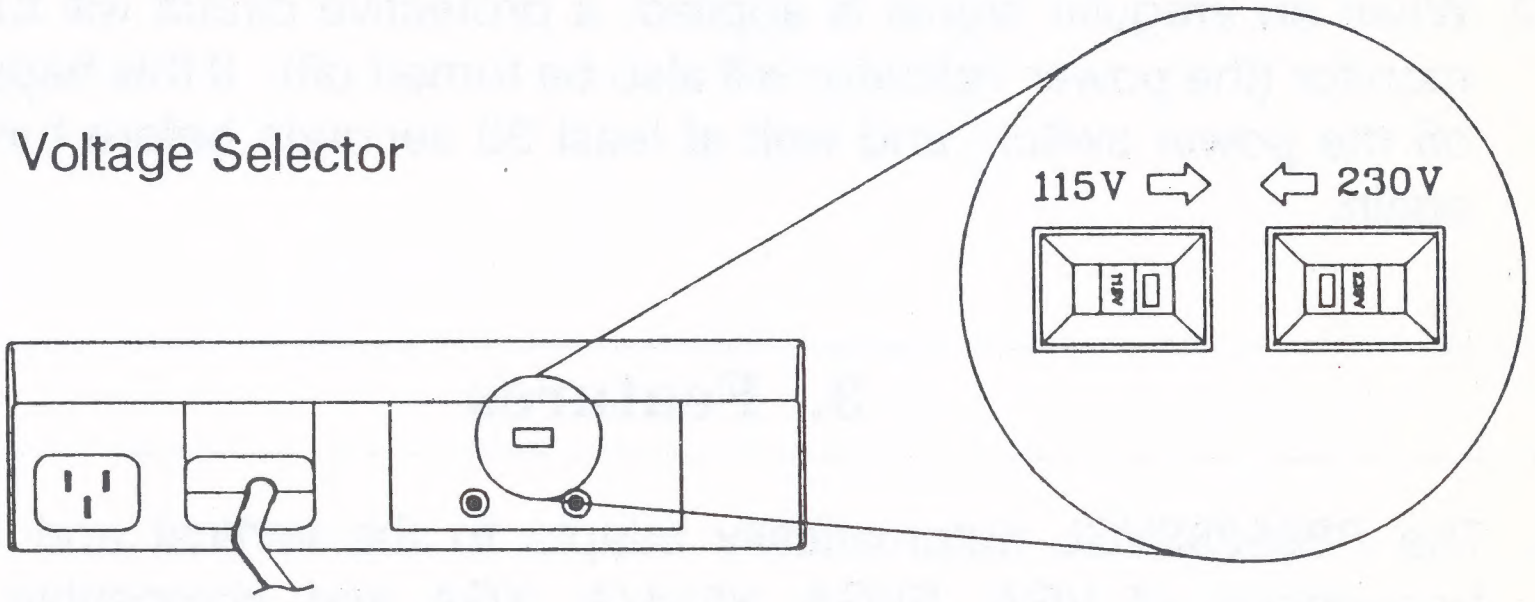
# 1. Introduction

Congratulations on your purchase of a Packard Bell monitor. One of the most versatile monitors available today, the PB8528SVGL automatically adjusts its vertical and horizontal scanning frequencies to those of your computer's graphics adapter. The PB8528SVGL provides crisp text and vivid color graphic displays when used with SUPER-VGA and compatible graphics adapters (see specifications).

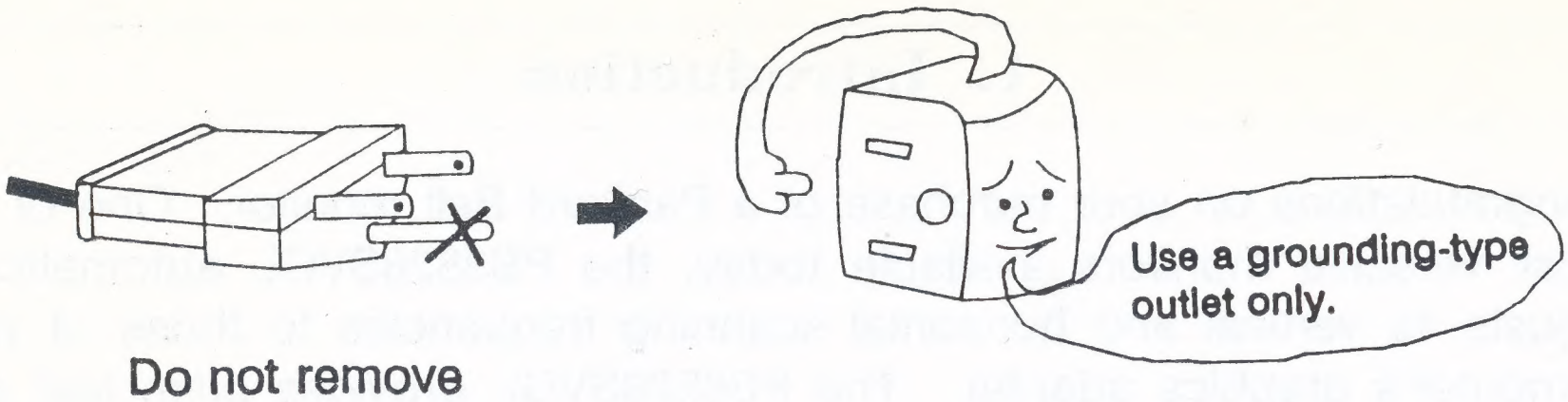
# 2. Precautions

1. To prevent electric shock, do not remove screws or cover.
   There are no user-serviceable parts inside the monitor. Refer servicing to qualified service personnel.
   DO NOT REMOVE THE TILT/SWIVEL BASE!

2. The input power source:
   The PB8528SVGL is designed to be suitable for both low input voltage (100-125V) and high input voltage (200-240V) areas.
   The voltage selector is a two position slide switch marked with 115V and 230V on the rear cabinet.
   Ensure the correct input value before plugging the power cord into a wall AC outlet:
   (a) Determine the voltage of your wall power socket (100–125V) or (200-240V).
   (b) Set the same voltage on the selector as that provided by the power cord on your wall AC outlet.




3. The monitor is equipped with a three-pronged grounding plug which will only fit a grounded power outlet.
   This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician.




Do not remove

4. Do not put the monitor or other heavy objects on the power supply cord. A damaged power cord may cause fire or electric shock.

5. Do not insert sharp objects into the monitor. They may cause fire or failure.

6. Do not allow liquids to fall into the cabinet.

7. To reduce eye fatigue, avoid using the display in direct sunlight or other bright lights.

8. Do not operate the monitor beyond the specified temperature and humidity range (see specifications).

9. For proper operation, keep the monitor adequately ventilated.

10. Keep the monitor away from transformers, motors, fans or strong magnetic fields.

11. If the monitor does not operate properly, turn the power switch off and then unplug the monitor.

12. When an irregular signal is applied, a protective circuit will turn off the monitor (the power indicator will also be turned off). If this happens, turn off the power switch, and wait at least 30 seconds before turning it on again.

## 3. Features

1. The PB8528SVGL automatically adapts to the vertical and horizontal frequencies of VGA, SVGA, 8514/A, XGA and compatible graphics adapters.

2. Fully compatible with all Packard Bell and other PC-compatible microcomputers.

3. The monitor makes it possible, in many cases, to upgrade graphics adapters or software without needing to replace the monitor, due to its extended compatibility.

4. The monitor features maximum resolutions of 1024 pixels, horizontal, and 768 lines, vertical. (Interlace)

5. Accepts analog signal inputs and can display a wide range of colors from a palette of 262,144 hues depending upon the graphics board and software used.

## 4. Specifications

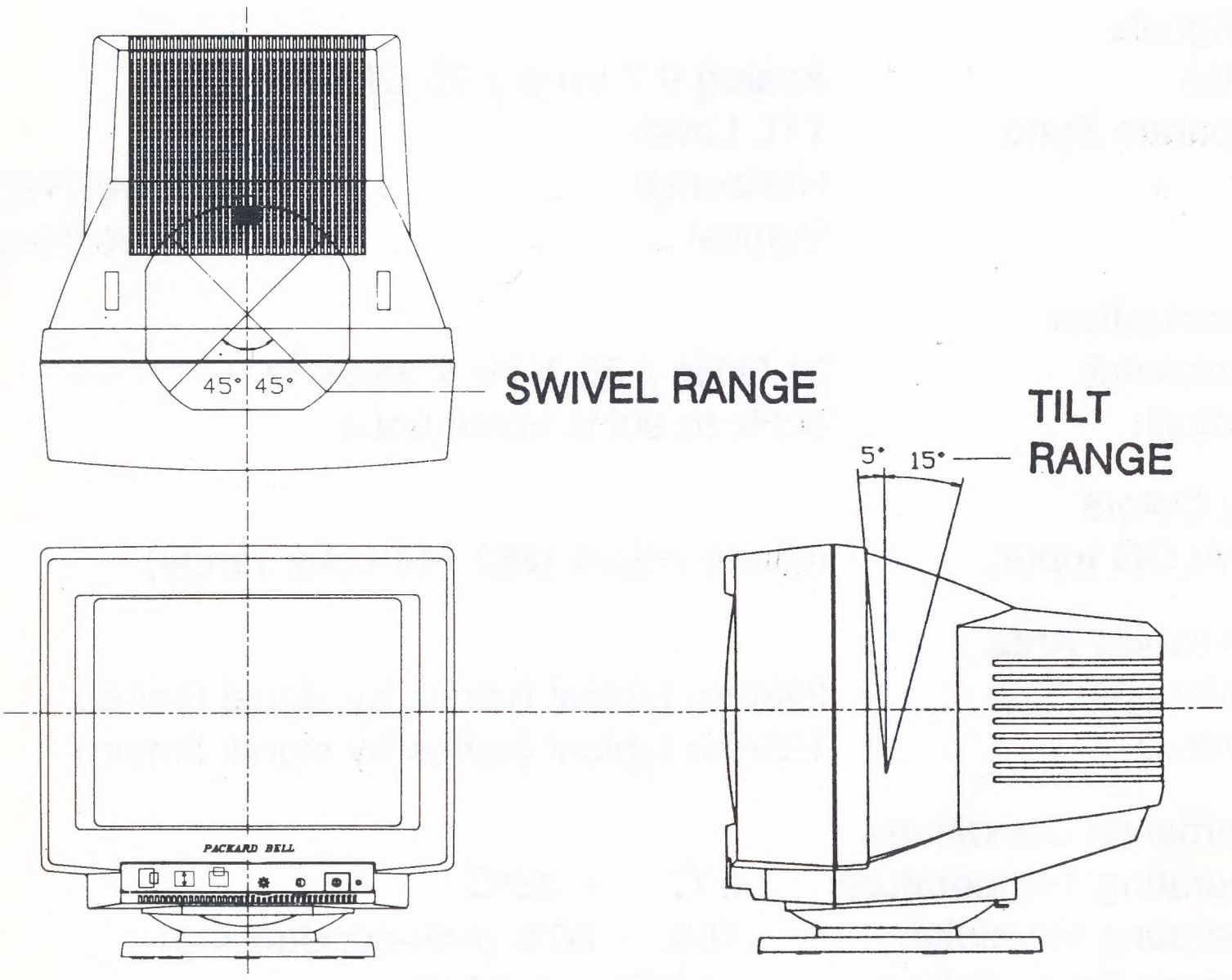
| | |
|---|---|
| Power Source: | AC 120V, 60Hz/220V, 50Hz (SWITCHABLE) |
| Power Consumption: | 80 W |
| Picture Tube: | 13 inches, 90 deflection, 0.28mm dot pitch |
| Resolutions | |
| * Horizontal: | 1024 pixels (interlace), 800 pixels (noninterlace) |
| * Vertical: | 768 pixels (interlace), 600 plxels (noninterlace) |
| Input Signals | |
| * Video: | Analog 0.7 Vp-p / 75 Ohm Positive |
| * Separate Sync: | TTL Level |
| | Horizontal ..... Positive/Negative |
| | Vertical ..... Positive/Negative |
| Synchronization | |
| * Horizontal: | 31.5kHz / 35.2kHz / 35.5kHz |
| * Vertical: | 50Hz to 90Hz continuous |
| Display Colors | |
| * ANALOG Input: | Infinite colors (262,144 color range) |
| Active Display Area | |
| * Horizontal: | 246mm typical (varies by signal timing) |
| * Vertical: | 185mm typical (varies by signal timing) |
| Environmental Conditions | |
| * Operating Temperature: | 5°C ~ + 35°C |
| * Operating Humidity: | 10% ~ 80% (non-condensing) |
| * Storage Temperature: | -40°C ~ + 65°C |
| * Storage Humidity: | 5% ~ 95% |

| | |
|---|---|
| High Voltage: | 23 KV |
| Misconvergence: | Less than 0.4mm (Center), 0.6mm (Corner) |
| Dimensions (W) x (H) x (D): | 14.5" (367mm) x 12.9" (328mm)<br>(W/O Base) x 15.2" (385mm) |
| Weight (Net): | 25.3 lbs. (11.5kg) |

**VLMF: (Very Low Magnetic Field)**
The test method is according to MPRII (MPR 1990:8). Less than 20nT.

**Tilt and Swivel Operation:**
The swivel range is normally limited to a range of 45 degrees to the right or left of the front position.
The tilt range is normally limited to an angle of -5 degrees forwards and +15 degrees backwards. This allows you to set the screen angle to the viewing position which is most comfortable.

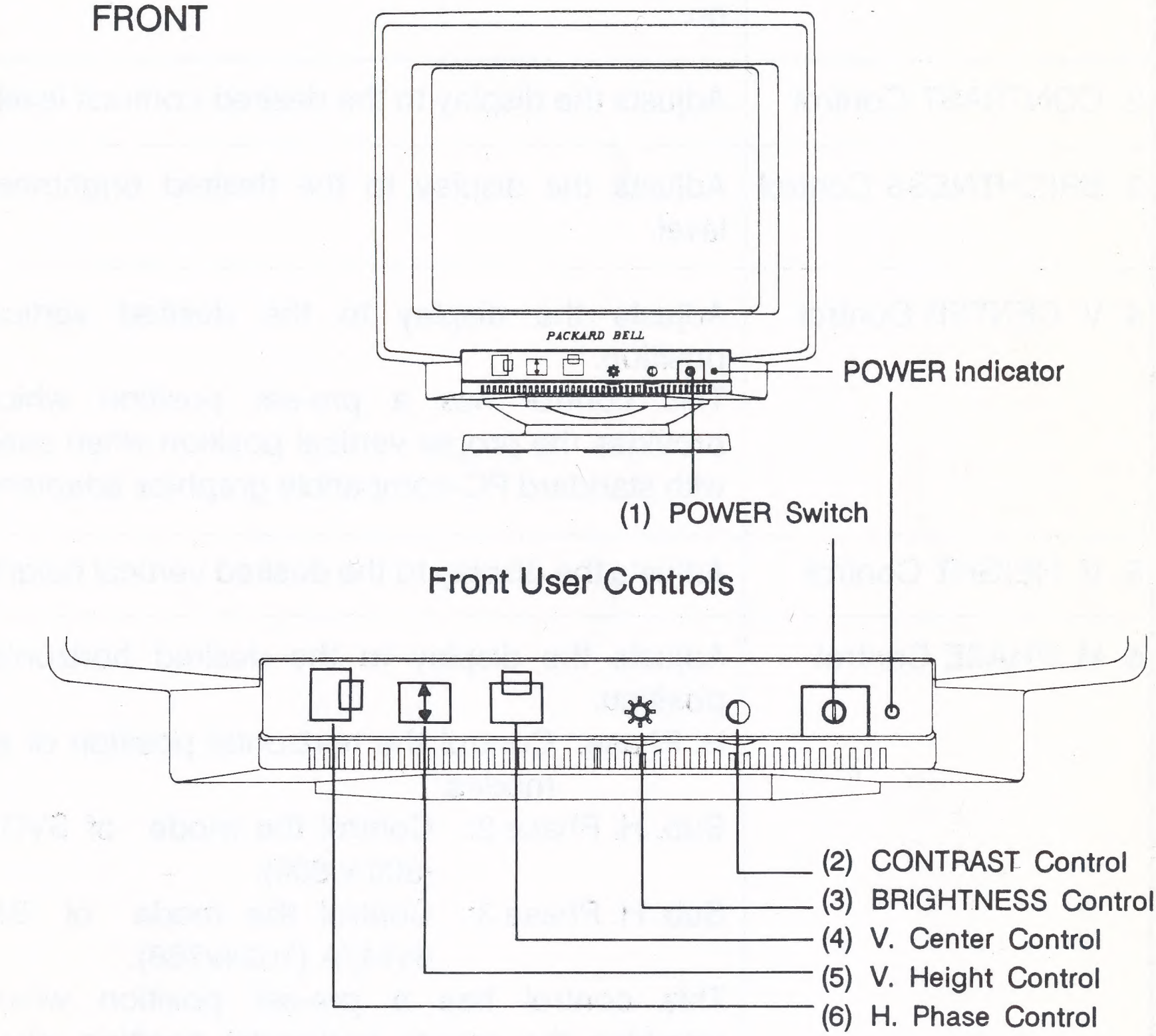
**Note:** * When this display is operated with the vertical frequency under 55Hz, the image on the screen may flicker.



# 5. Control Locations and Adjustments

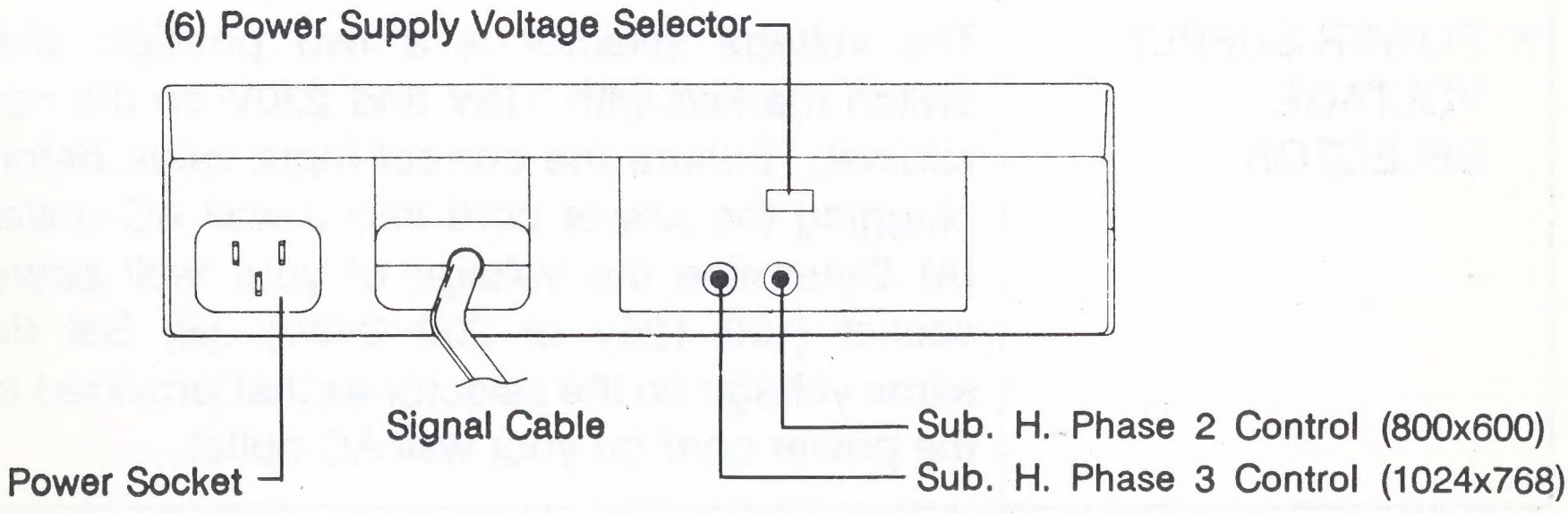
**Note:** The circled numbers indicate the control description item on the following page.

FRONT




Front User Controls

REAR



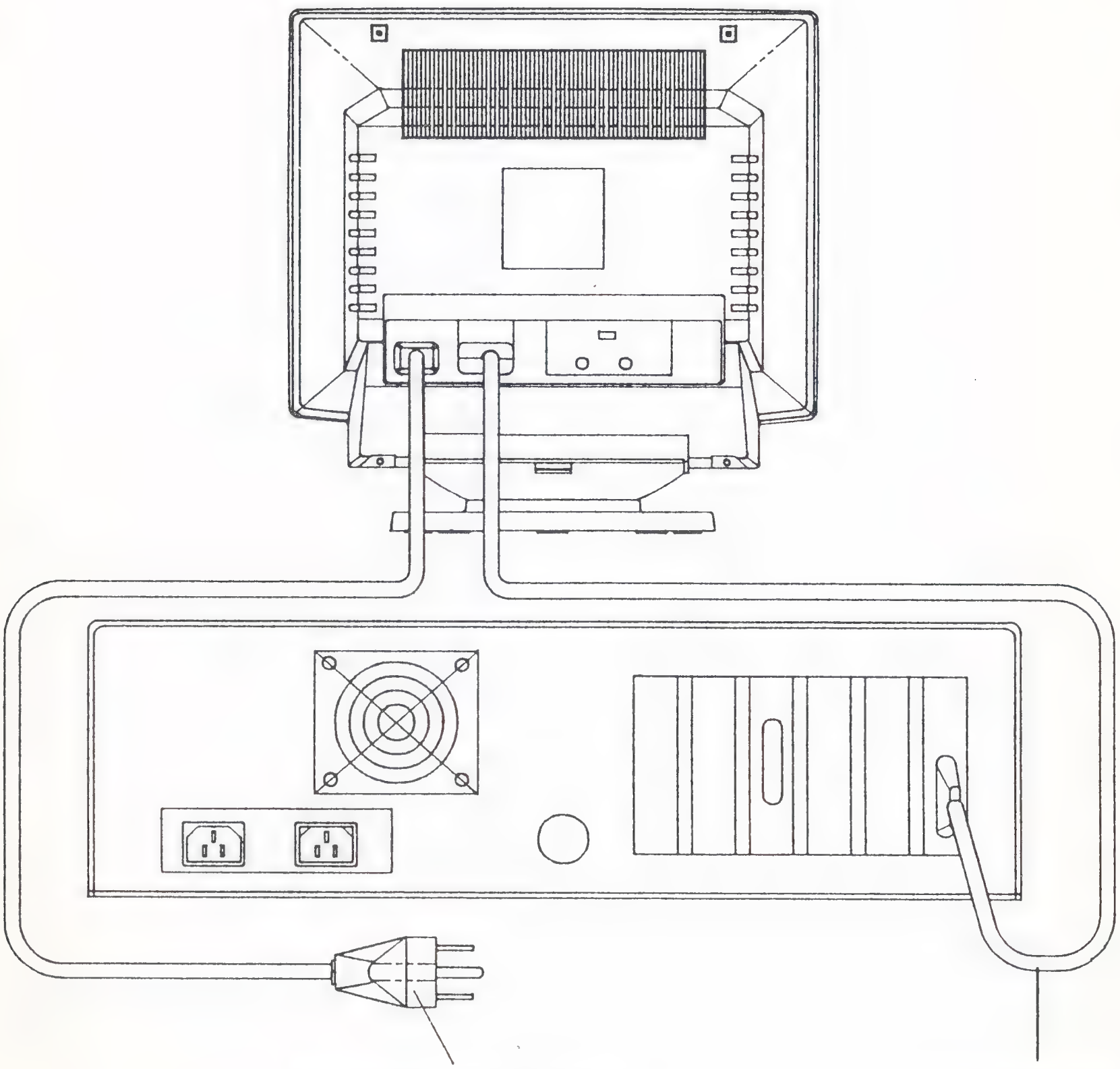
## Adjustments

| | |
|---|---|
| 1. POWER Switch | Push to turn the display on, and push again to turn off.<br>The power indicator will light when the display is on. |
| 2. CONTRAST Control | Adjusts the display to the desired contrast level. |
| 3. BRIGHTNESS Control | Adjusts the display to the desired brightness level. |
| 4. V. CENTER Control | Adjusts the display to the desired vertical position.<br>This control has a pre-set position which provides the proper vertical position when used with standard PC-compatible graphics adapters. |
| 5. V. HEIGHT Control | Adjusts the display to the desired vertical height. |
| 6. H. PHASE Control | Adjusts the display to the desired horizontal position.<br>H. Phase: Control the horizontal position of all modes.<br>Sub. H. Phase 2: Control the mode of SVGA (800 x 600).<br>Sub. H. Phase 3: Control the mode of IBM 8514/A (1024x768).<br>This control has a pre-set position which provides the proper horizontal position when used with standard PC-compatible graphics adapters. |
| 7. POWER SUPPLY VOLTAGE SELECTOR | The voltage selector is a two position slide switch marked with 115V and 230V on the rear cabinet. Ensure the correct input value before plugging the power cord into a wall AC outlet: (A) Determine the voltage of your wall power socket (100-125V or 200-240V). (B) Set the same voltage on the selector as that provided by the power cord on your wall AC outlet. |

# 6. Connections

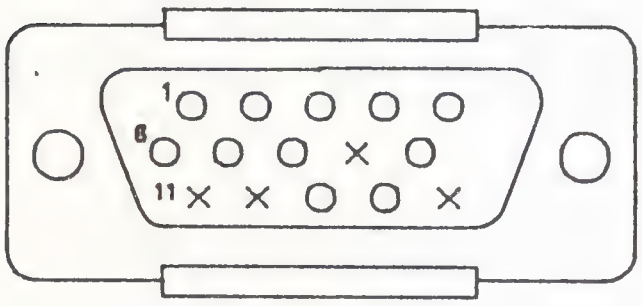
Your monitor has two connecting cables: a Power Supply Cord, which connects to a wall outlet, surge protector or other power source, and a Signal Cable, which connects to the graphics adapter of your computer. To insure safety and correct operation, always follow these four steps when connecting the monitor:

1. Disconnect the power supply cords from your computer and monitor.
2. Connect the signal cable from the monitor to the graphics adapter of your computer. The connector is shaped so that it will only fit when properly aligned.
3. Secure the connection by tightening the two screws on the connector.
4. Plug the power supply cords of the computer and monitor into an AC outlet.



# 7. Pin Assignments and Signal Levels

Min D-SUB Type 15-P




| PIN NO. | SIGNAL |
|---|---|
| 1 | * RED |
| 2 | * GREEN |
| 3 | * BLUE |
| 4 | GROUND |
| 5 | GROUND |
| 6 | GROUND |
| 7 | GROUND |
| 8 | GROUND |
| 9 | NO-CONNECTION |
| 10 | GROUND |
| 11 | GROUND |
| 12 | NO-CONNCETION |
| 13 | H. SYNC. |
| 14 | V. SYNC. |
| 15 | NO-CONNECTION |

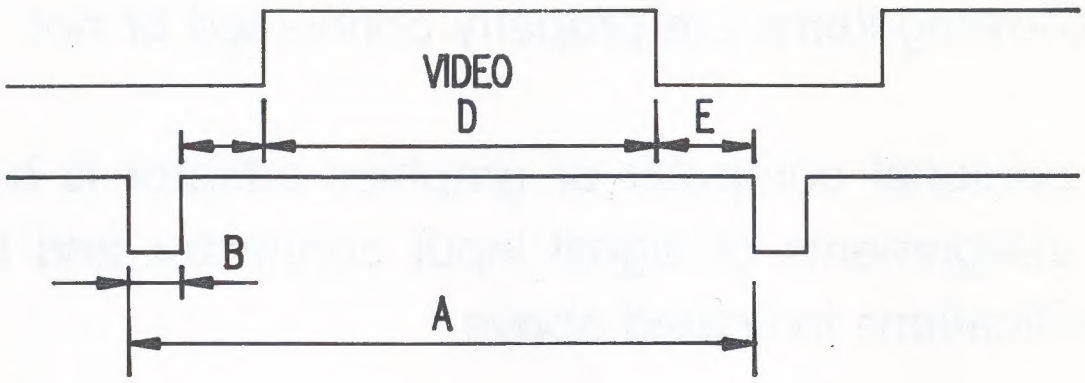
**SIGNAL LEVEL**

Signal levels, except for those listed below, are TTL. "*" means 0.7 Vp-p (VIDEO).

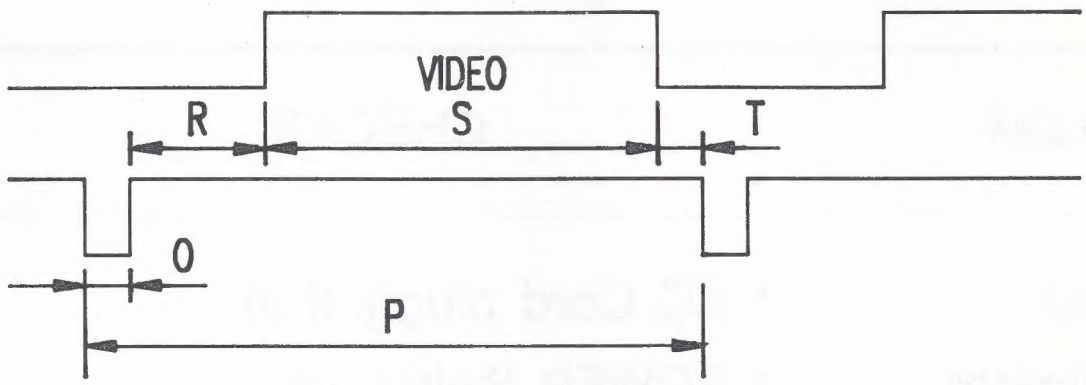
# 8. Timing Charts

## SEPARATE SYNC.

HORIZONTAL




VERTICAL




Sync. Polarity: Positive/Negative

## PRESET TIMING

| | Mode 1 | Mode 2 | Mode 3 | Mode 4 | Mode 5 |
|---|---|---|---|---|---|
| fH (kHz) | 31.47 | 31.47 | 31.47 | 35.520 | 35.156 |
| A $\mu$s (Line time total) | 31.78 | 31.78 | 31.78 | 28.150 | 28.44 |
| B $\mu$s (Synch. pulse) | 3.81 | 3.81 | 3.81 | 3.919 | 2.00 |
| C $\mu$s (Back porch) | 1.91 | 1.91 | 1.91 | 1.247 | 3.556 |
| D $\mu$s (Active) | 25.42 | 25.42 | 25.42 | 22.810 | 22.22 |
| E $\mu$s (Front porch) | 0.64 | 0.64 | 0.64 | 0.178 | 0.667 |
| fV (Hz) | 70 | 70 | 60 | 86.960 | 56.25 |
| P ms (Frame time total) | 14.27 | 14.27 | 16.68 | 11.50 | 17.78 |
| Q ms (Synch. pulse) | 0.064 | 0.064 | 0.064 | 0.113 | 0.057 |
| R ms (Back porch) | 1.907 | 1.112 | 1.049 | 0.563 | 0.626 |
| S ms (Active) | 11.12 | 12.71 | 15.25 | 10.81 | 17.01 |
| T ms (Front porch) | 1.176 | 0.381 | 0.318 | 0.014 | 0.028 |
| | Separate Sync. | Separate Sync. | Separate Sync. | Separate Sync. | Separate Sync. |
| H. Sync Polarity | Positive | Negative | Negative | Positive | Positive/Negative |
| V. Sync Polarity | Negative | Positive | Negative | Positive | Positive/Negative |

# 9. Troubleshooting

Before you call PACKARD BELL or an authorized service center, please check if the following items are properly connected or not.

If a non-IBM personal computer or graphics adaptor is being used, make sure the pin assignments of signal input connector and the signal timing meet the specifications indicated above.

| PROBLEM | CHECKS | LOCATION |
|---|---|---|
| No Picture or POWER Indicator off. | * AC Cord plugged in<br>* POWER Switch on<br>* Signal Cable connected | Rear<br>Front<br>Rear |
| No Picture, POWER Indicator off, AC cord plugged in, POWER switch on. | * Turn off POWER switch, wait at least 30 seconds, turn it back on. | Front |
| Image is not centered. | * V-CENTERING Control, H-PHASE Control<br>* SUB. H-PHASE 2 and 3 | Front<br>Rear |
| No picture, POWER Indicator on. | * CONTRAST Control<br>* BRIGHTNESS Control | Front<br>Front |

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